valuation methodologies listed in this section to estimate appropriate compensation for lost services or may choose other methodologies provided that the methodology can satisfy the acceptance criterion in paragraph (c)(3) of this section. Nothing in this section precludes the use of a combination of valuation methodologies so long as the authorized official does not double count or uses techniques that allow any double counting to be estimated and eliminated in the final damage calculation.

Type of Methodology	Description
(i) Market price	The authorized official may determine the compensable value of the injured resources using the diminution in the market price of the injured resources or the lost services. May be used only if: (A) The natural resources are traded in the market; and (B) The authorized official determines that the market for the resources, or the services provided by the resources, is reasonably competitive.
(ii) Appraisal	The measure of compensable value is the difference between the with- and without-injury appraisal value determined by the comparable sales approach as described in the Uniform Appraisal Standards. Must measure compensable value, to the extent possible, in accordance with the ''Uniform Appraisal Standards for Federal Land Acquisition,'' Interagency Land Acquisition Conference, Washington, DC, 1973 (incorporated by reference, see § 11.18).
(iii) Factor income (sometimes referred to as the ''reverse value added'' methodology).	May be used only if the injured resources are inputs to a production process, which has as an output a product with a well-defined market price. May be used to determine: (A) The economic rent associated with the use of resources in the production process; and (B) The in-place value of the resources.
(iv) Travel cost	May be used to determine a value for the use of a specific area. Uses an individual's incremental travel costs to an area to model the economic value of the services of that area. Compensable value of the area to the traveler is the difference between the value of the area with and without a discharge or release. Regional travel cost models may be used, if appropriate.
(v) Hedonic pricing	May be used to determine the value of nonmarketed resources by an analysis of private market choices. The demand for nonmarketed natural resources is thereby estimated indirectly by an analysis of commodities that are traded in a market.
(vi) Unit value/benefits transfer	Unit values are preassigned dollar values for various types of nonmarketed recreational or other experiences by the public. Where feasible, unit values in the region of the affected resources and unit values that closely resemble the recreational or other experience lost with the affected resources may be used.
(vii) Contingent valuation	Includes all techniques that set up hypothetical markets to directly elicit an individual's economic valuation of a natural resource. Can determine: (A) Use values and explicitly determine option and existence values; and (B) Lost use values of injured natural resources.
(viii) Conjoint Analysis	Like contingent valuation, conjoint analysis is a stated preference method. However, instead of seeking to value natural resource service losses in strictly economic terms, conjoint analysis compares natural resource service losses that arise from injury to natural resource service gains produced by restoration projects.
(ix) Habitat Equivalency Analysis.	May be used to compare the natural resource services produced by habitat or resource-based restoration actions to natural resource service losses.
(x) Resource Equivalency Analysis.	Similar to habitat equivalency analysis. This methodology may be used to compare the effects of restoration actions on specifically identified resources that are injured or destroyed.
(xi) Random Utility Model	Can be used to: (A) Compare restoration actions on the basis of equivalent resource services provided; and (B) Calculate the monetary value of lost recreational services to the public.

(3) *Other valuation methodologies.* Other methodologies that measure compensable value in accordance with the public's willingness to pay for the lost service, or with the cost of a project that restores, replaces, or acquires services equivalent of natural resource services lost pending restoration to baseline in a cost-effective manner, are acceptable methodologies to determine compensable value under this part.

[51 FR 27725, Aug. 1, 1986, as amended at 53 FR 5175, Feb. 22, 1988; 59 FR 14285, Mar. 25, 1994; 73 FR 57266, Oct. 2, 2008]

§ 11.84 Damage determination phase—implementation guidance.

(a) *Requirement.* The authorized official should use the cost estimating and valuation methodologies in § 11.83 of this part following the appropriate guidance in this section.

(b) *Determining uses.* (1) Before estimating damages for compensable value under § 11.83 of this part, the authorized official should determine the uses made of the resource services identified in the Quantification phase.

(2) Only committed uses, as that phrase is used in this part, of the resource or services over the recovery period will be used to measure the change from the baseline resulting from injury to a resource. The baseline uses must be reasonably probable, not just in the realm of possibility. Purely speculative uses of the injured resource are precluded from consideration in the estimation of damages.

(3)(i) When resources or resource services have mutually exclusive uses, the highest-and-best use of the injured resource or services, as determined by the authorized official, shall be used as the basis of the analyses required in this part. This determination of the highest-and-best use must be consistent with the requirements of paragraph (b)(2) of this section.

(ii) If the uses of the resource or service are not necessarily mutually exclusive, the sum of damages should be determined from individual services. However, the sum of the projected damages from individual services shall consider congestion or crowding out effects, if any, from the resulting projected total use of those services.

(c) *Double counting.* (1) Double counting of damages should be avoided. Double counting means that a benefit or cost has been counted more than once in the damage assessment.

(2) Natural resource damages are the residual to be determined by incorporating the effects, or anticipated effects, of any response actions. To avoid one aspect of double counting, the effects of response actions shall be factored into the analysis of damages. If response actions will not be completed until after the assessment has been initiated, the anticipated effects of such actions should be included in the assessment.

(d) *Uncertainty.* (1) When there are significant uncertainties concerning the assumptions made in all phases of the assessment process, reasonable alternative assumptions should be examined. In such cases, uncertainty should be handled explicitly in the analysis and documented. The uncertainty should be incorporated in the estimates of benefits and costs.

(2) To incorporate this uncertainty, the authorized official should derive a range of probability estimates for the important assumptions used to determine damages. In these instances, the damage estimate will be the net expected present value of the costs of restoration, rehabilitation, replacement, and/or acquisition of equivalent resources and, if relevant, compensable value.

(e) *Discounting.* (1) Where possible, damages should be estimated in the form of an expected present value dollar amount. In order to perform this calculation, a discount rate must be selected.

(2) The discount rate to be used is that specified in ''Office of Management and Budget (OMB) Circular A–94 Revised'' (dated March 27, 1972, available from the Executive Office of the President, Publications, 726 Jackson Place, NW., Washington, DC 20503; ph: (202) 395–7372).

(f) *Substitutability.* In calculating compensable value, the authorized official should incorporate estimates of the ability of the public to substitute resource services or uses for those of the injured resources. This substitutability should be estimated only if the potential benefits from an increase in accuracy are greater than the potential costs.

(g) *Compensable value during the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.* (1) In determining the amount of damages, the authorized official has the discretion to compute compensable value for the period of time required to achieve the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.

(2) When calculating compensable value during the period of time required to achieve restoration, rehabilitation, replacement, and/or acquisition of equivalent resources, the authorized official should follow the procedures described below. The procedures need not be followed in sequence.

(i) The ability of the injured resources to recover over the recovery period should be estimated. This estimate includes estimates of natural recovery rates as well as recovery rates

that reflect management actions or resource acquisitions to achieve restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.

(ii) A recovery rate should be selected for this analysis that is based upon cost-effective management actions or resource acquisitions, including a ''No Action-Natural Recovery'' alternative. After the recovery rate is estimated, compensable value should be estimated.

(iii) The rate at which the uses of the injured resources and their services will be restored through the restoration or replacement of the services should be estimated. This rate may be discontinuous, that is, no uses are restored until all, or some threshold level, of the services are restored, or continuous, that is, restoration or replacement of uses will be a function of the level and rate of restoration or replacement of the services. Where practicable, the supply of and demand for the restored services should be analyzed, rather than assuming that the services will be utilized at their full capacity at each period of time in the analysis. Compensable value should be discounted using the rate described in paragraph (e)(2) of this section. This estimate is the expected present value of uses obtained through restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.

(iv) The uses of the resource that would have occurred in the absence of the discharge or release should be estimated. This estimate should be done in accordance with the procedures in §11.72 of this part. These uses should be estimated over the same time period using the same discount rate as that specified in paragraph (e)(2) of this section. This amount is the expected present value of uses forgone.

(v) Subtraction of the present value of uses obtained through restoration or replacement from the expected present value of uses forgone gives the amount of compensation that may be included, if positive, in a measure of damages.

(h) *Scope of the analysis.* (1) The authorized official must determine the scope of the analysis in order to estimate compensable value.

(2) In assessments where the scope of analysis is Federal, only the compensable value to the Nation as a whole should be counted.

(3) In assessments where the scope of analysis is at the State level, only the compensable value to the State should be counted.

(4) In assessments where the scope of analysis is at the tribal level, only the compensable value to the tribe should be counted.

[51 FR 27725, Aug. 1, 1986, as amended at 53 FR 5176, Feb. 22, 1988; 59 FR 14286, Mar. 25, 1994]

Subpart F—Post-Assessment Phase

§ 11.90 What documentation must the authorized official prepare after completing the assessment?

(a) At the conclusion of an assessment, the authorized official must prepare a Report of Assessment that consists of the Preassessment Screen Determination, the Assessment Plan, and the information specified in paragraphs (b) and (c) of this section as applicable.

(b) When the authorized official has used a type A procedure, the Report of Assessment must include the information specified in subpart D.

(c) When the authorized official has used type B procedures, the Report of Assessment must include all documentation supporting the determinations required in the Injury Determination phase, the Quantification phase, and the Damage Determination phase, and specifically including the test results of any and all methodologies performed in these phases. The preliminary estimate of damages shall be included in the Report of Assessment. The Restoration and Compensation Determination Plan, along with comments received during the public review of that Plan and responses to those comments, shall also be included in the Report of Assessment.

[51 FR 27725, Aug. 1, 1986, as amended at 59 FR 14287, Mar. 25, 1994; 61 FR 20612, May 7, 1996]

§ 11.91 How does the authorized official seek recovery of the assessed damages from the potentially responsible party?

(a) At the conclusion of the assessment, the authorized official must present to the potentially responsible